

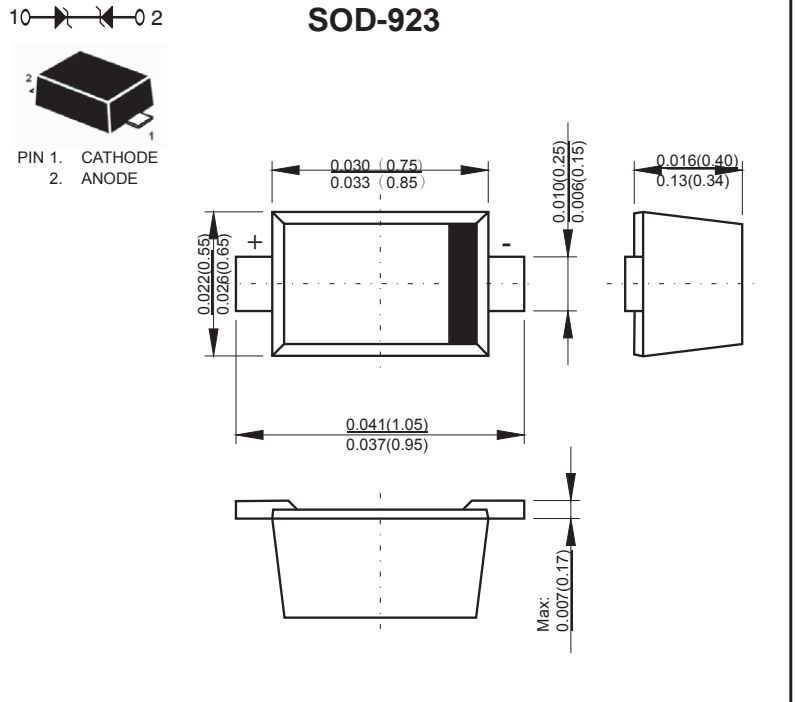
## Electrostatic discharge Protection Devices(ESD)

### FEATURES

- Reverse working(Stand-off) voltages:3.3V
- Low leakage.
- Response time is typically<1ns.
- ESD Rating of Class 3(>16kV) per Human Body Model.
- IEC61000-4-2Level 4 ESD Protection.

### APPLICATIONS

- Designed to protect voltage sensitive components from ESD and transient.
- Case style:SOD-923molded plastic



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Rating	Symbol	Value	Unit
IEC 61000-4-2 (ESD)	Contact	±10	kV
	Air	±15	
Total Power Dissipation on FR-5 Board (Note 1) @ T <sub>A</sub> = 25°C	P <sub>D</sub>	150	mW
Storage Temperature Range	T <sub>stg</sub>	-55 to +150	°C
Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T <sub>L</sub>	260	°C

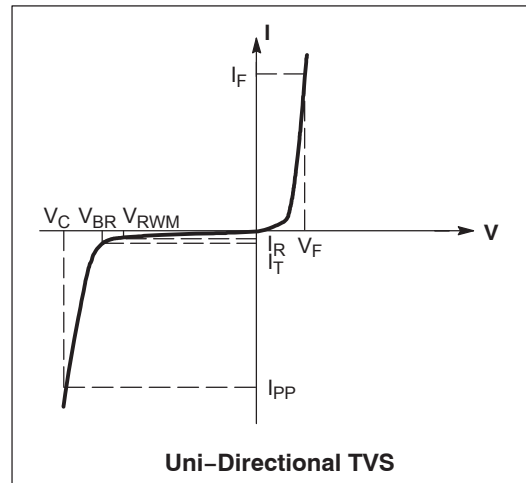
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. FR-5 = 1.0 x 0.75 x 0.62 in.

# RATINGS AND CHARACTERISTIC CURVES

Electrical Specification (TA = 25°C unless otherwise noted, VF = 1.0 V Max. @ IF = 10 mA for all types)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$
$P_{pk}$	Peak Power Dissipation
C	Capacitance @ $V_R = 0$ and $f = 1.0$ MHz



Device	Device Marking	$V_{RWM}$ (V)	$I_R$ ( $\mu$ A) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 2)	$I_T$ mA	C (pF)		$V_C$ (V) @ $I_{PP} = 1$ A (Note 3)
		Max	Max	Min		Typ	Max	Max
ESD9L3.3C	S	3.3	1.0	4.8	1.0	0.5	0.9	10

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.
- Surge current waveform per Figure 5.

### IEC 61000-4-2 Spec.

Level	Test Voltage (kV)	First Peak Current (A)	Current at 30 ns (A)	Current at 60 ns (A)
1	2	7.5	4	2
2	4	15	8	4
3	6	22.5	12	6
4	8	30	16	8

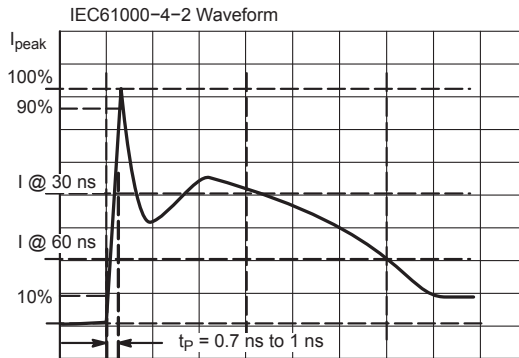


Figure . IEC61000-4-2 Spec

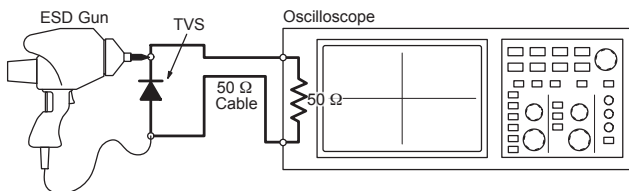


Figure . Diagram of ESD Test Setup

### PACKAGE INFORMATION

Device	Package	Shipping
ESD9L3V3C	SOD-923	8000/Tape&Reel

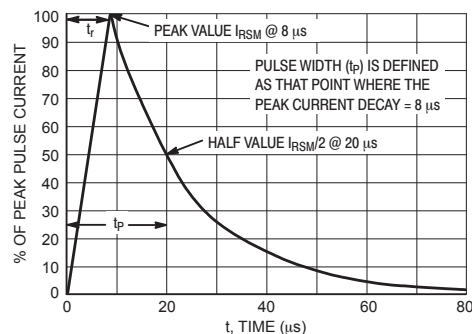


Figure 5. 8 X 20  $\mu$ s Pulse Waveform